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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,666	08/31/2001	Eleanor G. Rieffel	CQ10187	7817

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SUGHRUE MION, PLLC
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EXAMINER

BRIER, JEFFERY A

ART UNIT	PAPER NUMBER
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2628

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/942,666

Applicant(s)

RIEFFEL ET AL.

Examiner

Jeffery A. Brier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-25, 27-48, 50-66, 68 and 70-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-25, 27-48, 50-66, 68, and 70-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/06/2006 has been entered.

Response to Amendment

2. The amendment filed on 8/17/2006 has been entered. The amendment to the specification overcomes the new matter objection set forth in the office action mailed on 5/22/2006. The amendment to the claims overcomes the 35 USC 112 first and second paragraph rejections set forth in the office action mailed on 5/22/2006 except for the rejection of claims 21, 41, and 64 set forth at page 5 last paragraph in the office action mailed on 5/22/2006.

Response to Arguments

3. Applicant's arguments filed 8/17/2006 concerning the 35 USC 101 rejection have been fully considered but they are not persuasive. The changes to the claims do not overcome the 35 USC 101 rejection because the claims do not claim a useful and tangible result of the mathematical algorithm that the claims represent. The term "media" is an abstract entity without a clear definition in the specification. The term "for display" is an abstract intended use. Adding to the independent claims the claimed "for display" is not enough because "for display" is an intended use and the claimed "media" and

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"digital ink" are abstract entities in the computer unlike the anti-aliased pixel illumination intensity data to be displayed on a display means of *In re Alappat*, 31 USPQ2d 1545, 1555, 1557 (Fed. Cir. 1994) and unlike the dollar amounts of *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998) and unlike the condition of a patient's heart of *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 22 USPQ2d 1033 (Fed. Cir. 1992). *Alappat* discussed claim 15 at page 1555 and discussed their rationale at page 1557. *State Street* discussed the dollar amounts rationale at page 1601. Additionally at page 1599 *State Street* construed the means of the claims at elements d, e, f, and g to include storing of calculated values and this storing was not used in the analysis of the claim in determining the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Alappat's claim 15 discussion:

When independent claim 15 is construed in accordance with Section 112 Para. 6, claim 15 reads as follows, the subject matter in brackets representing the structure which *Alappat* discloses in his specification as corresponding to the respective means language recited in the claims:

A rasterizer [a "machine"] for converting vector list data representing sample magnitudes of an input waveform into anti- aliased pixel illumination intensity data to be displayed on a display means comprising:

(a) [an arithmetic logic circuit configured to perform an absolute value function, or an equivalent thereof] for determining the vertical distance between the endpoints of each of the vectors in the data list;

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- (b) [an arithmetic logic circuit configured to perform an absolute value function, or an equivalent thereof] for determining the elevation of a row of pixels that is spanned by the vector;
- (c) [a pair of barrel shifters , or equivalents thereof] for normalizing the vertical distance and elevation; and
- (d) [a read only memory (ROM) containing illumination intensity data, or an equivalent thereof] for outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

Alappat's rationale discussion at page 1557:

(b)
Given the foregoing, the proper inquiry in dealing with the so called mathematical subject matter exception to Section 101 alleged herein is to see whether the claimed subject matter as a whole is a disembodied mathematical concept, whether categorized as a mathematical formula, mathematical equation, mathematical algorithm, or the like, which in essence represents nothing more than a "law of nature," "natural phenomenon," or "abstract idea." If so, Diehr precludes the patenting of that subject matter. That is not the case here. Although many, or arguably even all, ²² of the means elements recited in claim 15 represent circuitry elements that perform mathematical calculations, which is essentially true of all digital electrical circuits, the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. ²³ This is not a disembodied mathematical concept which may be characterized as an "abstract idea," but rather a specific machine to produce a useful, concrete, and tangible result.

State Street's rationale discussion at page 1601:

Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

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Thus, in this application amending the claims with "for display" does not produce a useful, concrete, and tangible result.

For example claim 1 needs to at least claim at line 1 "generating and displaying temporary digital ink", at line 2 "displayed media", and at lines 3, 4, and 5 "displayed digital ink" but claim 1 also needs to exclude the "a memory and the like" portion of the definition of user device given by applicant at page 6 line 2 as well as " a printer, a copier or other image forming device, a facsimile device definition of display given by applicant at page 6 lines 1-2 because the outputs of these devices do not have digital ink and do not have digital ink that fades. Amending the body of the claim to display on a display device, see definition of user device 10 at page 5 line 32 to page 6 line 4, the media, digital ink and fading digital ink, may help also to claim a useful and tangible result. Additionally for claims 70-73 adding in the body of the claim displaying the recovered digital ink may help.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 21, 41, and 64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21, 41, and 64:

These claims claim "at least one of color, thickness and shape of the selected digital inks", therefore they are indefinite for the same reasons given in the office action mailed on 12/12/2005 and 5/22/2006. In view of Superguide, IPXL Holdings, and Brown this phrase is to be read as at least one of A, B, C, D, and E and is not alternative, thus, this claim does not distinctly claim that which is described in paragraphs 0037-0041.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-5, 7-25, 27-48, 50-66, 68, and 70-73 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-5, 7-25, 27-48, and 50-66:

Independent claims 1, 24, 44, 68 and 70-72 all claim "digital ink for display on a media". It is not apparent from these amended claims the "concrete, useful, and tangible result". The term "media" is an abstract entity without a clear definition in the specification. The term "for display" is an abstract intended use. Paragraph 20 defines media as a broad range of images and objects. Paragraph 22 describes outputs devices used to display the "process media data", however, this "concrete, useful, and tangible" output having a "concrete, useful, and tangible result" on a device is not claimed. Thus, these claims are directed to manipulating abstract ideas. For example

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claim 1 needs to claim at line 1 "generating and displaying temporary digital ink", at line 2 "displayed media", and at lines 3, 4, and 5 "displayed digital ink". State Street Bank & Trust Co. v. Signature Financial Group Inc. (CA FC) 47 USPQ2d 1596, 1603 (7/23/1998). AT&T Corp. v. Excel Communications Inc. (CA FC) 50 USPQ2d 1447.

On page 1603 first paragraph the CAFC wrote in State Street:

Under Benson , this may have been a sufficient indicium of nonstatutory subject matter. However, after Diehr and Alappat , the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." Alappat , 33 F.3d at 1544, 31 USPQ2d at 1557. 7

On page 1603 paragraph labeled [4] the CAFC wrote:

[4] The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to -- process, machine, manufacture, or composition of matter-- but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See In re Warmerdam , 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994).

Allowable Subject Matter

8. Claims 1-5, 7-25, 27-48, 50-66 and 70-73 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action.

Claims 1-5, 7-25, 27-48, and 50-66:

The prior art of record fails to teach or suggest the five variables alternatively used to determine the predetermined time. See applicant remarks filed on 9/28/2005 at pages 14 and 15.

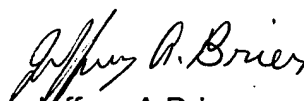
Claim 68:

The prior art of record fails to teach or suggest wherein the predetermined speed depends on an importance determination of a word in the media marked by the digital ink, however, it does need a displaying step displaying the media, displaying the digital ink on the displayed media, and displaying the fading digital ink displayed on the displayed media which displaying step needs to be in alignment with the specification.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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